

## Targeting the things that matter

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In 2009, Dr Ben Jensen joined the Grattan Institute from the OECD, where he spent 5 years working in the international policy arena on issues critical to Australian education policy.

Dr Jensen took a lead in the production of two significant reports. The first was *Creating Effective Teaching and Learning Environments*. This looked at new evidence on issues such as teacher appraisal, school evaluation, teaching practices within schools, and school leadership.

The second was *Measuring Improvements in Learning Outcomes – Best practices to assess the added value of schools*. This report provided a guide to designing, implementing and utilising systems that measure the contribution of schools to lifting student performance. It details how these systems enable governments, schools, teachers and other stakeholders to develop, monitor and continually improve education policies and programs to reach stated education objectives.

He was also responsible for an international network examining the learning environment and organisation of schools, which focused on issues such as teacher salaries and working hours and conditions, instruction hours within schools and class size.

Prior to joining the OECD, Dr. Jensen was a Senior Analyst at the Department of Premier and Cabinet at the Victorian Government and a Research Fellow at the Melbourne Institute of Applied Economic and Social Research, where he led the education research program. This expanded on his previous research, which concentrated on schools in disadvantaged urban areas and the impacts of disadvantage upon students. He also greatly enjoyed his time as Assistant Professor of Economics at a liberal arts college in the United States of America.

Dr Jensen holds a PhD in Economics from the University of Melbourne.

# Abstract

Throughout Australian school education we have invested in areas that we know do not have a strong association with student learning. Education expenditure in Australia has increased substantially for more than a decade, but results have either stagnated or declined (at least on international assessments such as the OECD Programme for International Student Assessment (PISA)). This indicates that we are investing in the areas that don't have the greatest impact on student learning. Comparisons with high-performing systems and schools show that this begins with ineffective strategies that do not adequately target student learning. This impacts resource allocation decisions in schools and across education systems. Nevertheless, there is considerable evidence about what works. Stronger targeting of resources on 'what works' can have a substantial impact on student learning in schools and throughout our education systems.

## Introduction

The latest PISA results show that Australian students perform relatively well compared to their peers in other countries. In PISA 2009, when the focus was on reading, Australian students performed above the OECD average. However, Australia lags behind the leaders, many of them from our own region. In Shanghai, the average 15-year-old mathematics student is performing at a level two years, on average, above his or her counterpart in Australia.<sup>1</sup>

## Spending more but achieving less

Not only do we lag behind some of our regional neighbours, we belong to a very small group of countries where student performance is declining. PISA results show that the average Australian 15-year-old in 2009 performs at a level about 4 months below the average 15-year-old in 2000. Our students are learning less than they used to. Unfortunately, this is occurring as our spending is increasing.

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<sup>1</sup> This should be interpreted as two to three 'OECD years' of education. PISA points are converted to education months, on average, across OECD countries on the PISA scale. Conversion rate sourced from Thomson, De Bortoli, Nicholas, Hillman & Buckley, 2010.

Between 2000 and 2009, real expenditure on education increased by 44 per cent.<sup>2</sup> The average cost of non-government school fees rose by 25 per cent.<sup>3</sup> These mismatches between expenditure and performance in school education reflect long-term trends. Leigh and Ryan (2011) demonstrated that productivity, which is defined as real expenditure increases divided by student performance, decreased by 12–13 per cent between 1975 and 1998 and 73 per cent between 1964 and 2003. This reflects longer-term trends. Between 1964 and 2003, real per child spending in school education increased 258 per cent, while numeracy test results significantly fell by 1.1 points on the LSAY3 scale (equivalent to 11 points on the PISA scale (Leigh & Ryan, 2008)).

Australian spending on school education is comparable with other developed countries. Australia spends slightly less per primary school student than the OECD average, but more than the OECD average on pre-primary and secondary school students (OECD, 2010a). However, most spending increases in the last decades have not improved student learning.

### Our big expenditure items

Given that expenditure increases have not resulted in improved outcomes, it is important to consider where the additional expenditure is going. While this will vary across schools, the data shows that there are key drivers of expenditure that differ from resource allocations in high-performing systems and from the evidence about ‘what works’.

Unfortunately, the data on education expenditure are not particularly detailed or complete in its coverage across Australian school education. The data are better for government expenditure on government schools so we must restrict some of our analysis to this particular set of expenditure on particular schools.

Increases in teacher expenditure make up the vast majority of total expenditure increases. There are three factors that explain increases in expenditure on teachers: changes in the student–teacher ratio; real changes in teacher salaries; and the natural increase in the teacher wage bill due to the ageing of the teacher cohort. Most teachers

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2 Combines real schooling expenditure for State and Territory and Commonwealth governments. MCEETYA (2001) Figure 3.1; ACARA (2009) Figure 8.1.

3 *Ibid.*

receive annual increments and, at different stages in their careers, promotions that are linked to tenure (Jensen & Reichl, 2011). Thus, over the period in question, the distribution of teachers shifts to the higher end of the pay structure. This distribution shift will occur naturally, with no change in policy; the first two of these factors are, however, policy malleable. There has been little change in teacher salaries over this period. Hence, changes in student–teacher ratios (and therefore changes in class size, given there have been minimal changes to instruction time and teachers’ working time) have been the policy decisions that have driven much of the expenditure in school education (Jensen et al., 2011).

This adds to the research showing that reduced class sizes and student–teacher ratios have a substantial impact on expenditure, but are not associated with improved student performance (Hoxby, 2000; Boehrstedt & Stecher, 2002; Mishel & Rothstein, 2002; Hanushek, 2003; Krueger, 2003; Jepsen & Rivkin, 2009; Chingos, 2010). It is clear that increasing teacher salaries has not been a policy lever that has driven expenditure increases over the period.

The analysis of expenditure between 2000–01 and 2008–09 does not assign causality between these changes and declining performance over the period. These data do not permit analysis of causal effects of specific programs. But the magnitude of both the increase in expenditure and the decline in performance should be a large feature of the current school funding debate and the formulation of education policy.

### A greater focus on student learning

It is clear that policy decisions and resource allocations made in Australian school education have not had the desired impacts. The important question is: what can be done to increase student learning? To address this issue, it is pertinent to look at best practice in high-performing systems. Importantly, the lessons from these systems are applicable at all levels of school education.

The biggest expenditure in school education is teacher salaries. Therefore, resource allocation decisions need to focus on teachers’ working time. Initially, this needs to consider the division between teaching time and non-teaching time. Instruction hours and class sizes will be the main determinants of teaching time, with, for some teachers in particular, the breadth of the curriculum also having an impact.

Teachers' activities in their non-teaching time are critical for improving learning and teaching in schools. Careful considerations have to be given to these activities with the appropriate trade-offs identified.

Building and operational expenses are other significant cost categories. At the national level, these have increased substantially over the past few years. This included expenditure on computers and IT in the *Education Revolution*, and the *Building Education Revolution* expenditure. It is important to realise that there is little evidence of a significant impact of these investments on student learning (Hattie, 2009). Like overall education expenditure levels, once a minimum standard has been reached, there is little evidence showing a significant impact of investments in buildings and IT expenditure on student learning.

If we consider the example of Shanghai, resource allocations follow the evidence about 'what works'. In Shanghai, the average teacher teaches for 10–12 hours per week, compared to an average of 20 hours in Australia. The key trade-off is class size. In Shanghai, classes range, on average, between 35 and 45. This does not mean that class sizes of 45 students are ideal, or even preferable, but that is the trade-off that has been made. But the key aspect is how teachers' non-teaching time is devoted to improving learning and teaching in schools.

Considerable resources are devoted to teachers' ongoing school-based professional learning. Classroom observation and feedback is frequent. Considerable resources are devoted to teachers' research and professional learning, such that research is a key component of teachers' job description (and promotion criteria). Active professional collaboration is not something that is done after school finishes, but is a central component of effective teaching and schools. Identifying students learning needs, often in a collaborative environment is given considerable resources, as is the modelling of good teaching practice. This can lead to improvements in the structuring of lessons, classroom management, individualised learning, active learning, and the development of advanced thinking skills and deductive reasoning (OECD, 2009a; Jensen, Hunter, Sonnemann, & Burns, 2012).

In contrast, similar policies in Australia too regularly are administrative exercises, disconnected from improving learning and teaching. The OECD survey (2009b) of Teaching and Learning (TALIS) shows that teacher appraisal and feedback is often disconnected from the classroom and that new teachers are no more likely to

receive feedback on an observation of their teaching if they work in a school with, or without, a mentoring program.

There are numerous examples of effective practices in schools (and education systems) in high-performing systems that are pertinent to discussions of how to improve schooling in Australia (Jensen et al., 2012). High-quality teacher education and professional learning programs are crucial to improving school effectiveness. But a discussion of these programs is outside the scope of this short paper (OECD, 2009b; OECD, 2012).

The challenge lies in how best to reallocate resources to improve student learning: to increase active collaboration; to improve instruction through feedback based on careful observation of teachers' work; to improve teachers' content and pedagogical knowledge through school-based research. These activities have continually been shown to increase student learning (e.g. Hattie, 2009).

Generally, in school education we have not been strong at identifying the effectiveness of how we allocate our resources (Levin, 2001; Tsang, 1997). This needs to be done at all schools and each level of education systems. Improvements will come when we concentrate resources on constantly improving student learning. It sounds simple but it requires investing resources in areas that have been shown to improve student learning, and cutting resources in areas that do not. Doing what matters is easy. *Only* doing what matters is very difficult.

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